

Notice of Allowability

Application No.

09/921,786

Examiner

Carlos Ortiz-Rodriguez

Applicant(s)

DREVILLON ET AL.

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/03/04.
2. ☒ The allowed claim(s) is/are 34,2,14,36,18,20,22,24,26,28,30,32,3,15,37,19,21,23,25,27,29,31,33,4,35,6,7,8,9,10,11,12,13
renumbered 1-33 respectively.
3. ☒ The drawings filed on 06 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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EXAMINER'S AMENDMENT

1. An examiner's amendment to claims submitted 7/21/04 record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Claims 1, 5, 16, and 17 are canceled.
3. Claims 35, 36 and 37 are new claims.
4. Claims are renumbered as follows:

Original	Final
34	1
2	2
14	3
36	4
18	5
20	6
22	7
24	8
26	9
28	10
30	11
32	12
3	13
15	14
37	15
19	16
21	17
23	18
25	19
27	20
29	21
31	22
33	23
4	24
35	25
6	26

7	27
8	28
9	29
10	30
11	31
12	32
13	33

5. Claim 34 has been amended as follows:

34. (*Currently Amended*) A method for real-time control of the fabrication of a thin-film structure by ellipsometric measurement, said method comprising:

- (a) reflecting a polarized beam of light from a surface of said structure;
- (b) ~~measuring the measuring~~ I_s and I_e of the reflected beam where $I_s = (\sin 2\psi \sin \Delta)$ and $I_e = (\sin 2\psi \cos \Delta)$ or $I_e = \cos 2\psi$; and measuring real-time control variables representative of the reflected beam, said variables directly linked to an ellipsometric ratio $\rho = \tan 4\psi \exp(i\Delta)$;
- (c) ~~comparing the trajectory of the obtained variables with the theoretical trajectory of a desired structure,~~ providing reference values to form a theoretical or experimental path; and
- (d) comparing a path traveled by said reflected beam with the reference values,

wherein the said comparison involves the length of the path traveled by said polarized beam of light at a time t in a plane of the variables with respect to an initial point at time t_0 for each layer in the thin-film structure.

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6. New claims 35, 36, 37 are the following:

35. *(New)* A method according to Claim 4, wherein the measured control variables are, respectively:

$$I_s = (\sin 2\psi \sin \Delta) \text{ and}$$

$$I_c = (\sin 2\psi \cos \Delta) \text{ or } I_c = \cos 2\psi$$

36. *(New)* A method according to Claim 14, wherein the measured control variables are, respectively:

$$I_s = (\sin 2\psi \sin \Delta) \text{ and}$$

$$I_c = (\sin 2\psi \cos \Delta) \text{ or } I_c = \cos 2\psi$$

37. *(New)* A method according to Claim 15, wherein the measured control variables are, respectively

$$I_s = (\sin 2\psi \sin \Delta) \text{ and}$$

$$I_c = (\sin 2\psi \cos \Delta) \text{ or } I_c = \cos 2\psi$$

REASONS FOR ALLOWANCE

7. The following is a statement of reasons for allowance:

Applicant's claimed invention is deemed allowable over the prior art of record as the prior art fails to teach a method for real-time control of the fabrication of a thin-film structure by ellipsometric measurement, said method comprising: comparing a path traveled by a reflected beam with reference values, wherein the said comparison involves the length of the path traveled by said beam at a time t in a plane of the variables with respect to an initial point at time t_0 for each layer in the thin-film structure.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

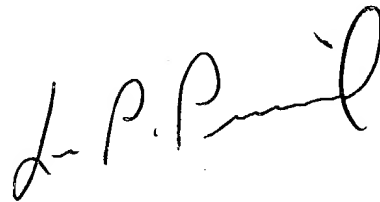
Carlos Ortiz-Rodriguez

Patent Examiner

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cror

September 29, 2004

A handwritten signature in black ink, appearing to read "L. P. Picard". The signature is fluid and cursive, with a large, stylized "P" and "Picard" written in a similar style.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100